

Unintended Consequences? Welfare Reform and the Earnings of Low-Income Women¹

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Abstract

We have used three unique longitudinal databases that incorporate information from diverse administrative and research sources and the CPS to examine the impact of the early stages of welfare reform on the earnings of low-income women. Using a number of different estimation techniques and a number of different samples, we find that the influx of former welfare recipients into the low-income labor market and other indirect effects of welfare reform were associated with an approximately 6% decline in earnings for low-income families that do not receive cash assistance. We find that increases in funding for Child Care Subsidies associated with welfare reform led to a significant increase in earnings. On net, the increase in Child Care Subsidies and the October 1996 increase in the minimum wage appear to have more than offset the negative impacts of the early stages of welfare reform on the earnings of low-income women. For a representative member of our primary sample, the October 1996 policy and administrative adjustments led to an estimated monthly earnings change of between -\$18 and \$68, with an earnings gain of \$25 being most likely.

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I. Introduction

October 1, 1996 ushered in major changes affecting low-income working women. Both the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA, P.L. 104-193) and an increase in the minimum wage became effective on that date. The minimum wage increase affected all areas of the country equally, but welfare reform under PRWORA differed markedly in different areas of the US.

Both academic and policy interest have concentrated on the impact of welfare reform on the behavior of the population receiving cash assistance. Little attention has been given to the impact of welfare reform on the large group of low-income working families that do not receive cash assistance. We focus our attention on this group, particularly low-income women with young dependent children.

PRWORA is part of the “new federalism” that consciously seeks to return power to state and local governments. Under PRWORA, the federal government allocates block grants to states to provide Temporary Aid to Needy Families (TANF) and provides broad guidelines for state TANF programs. State TANF programs must be equitable but need not be uniform throughout the state. Private, religious or governmental bodies may administer TANF programs and administration need not be the same throughout the state. States may use block grant funds for TANF programs that provide assistance for less than 5 years but may not provide assistance for more than five years. States must require recipients to participate in work activities after 24 months of assistance and can require recipients to participate in work activities prior to 24 months of assistance.

Evaluating the impact of the October 1 changes on the working poor requires a sample of such families. Because welfare reform can vary substantially at the local level and because of the importance of local labor market conditions and local child care markets to successful welfare reform, the sample must be large enough to allow detailed local-level analysis.

In this paper, we use a number of different databases to discern the impact of the early stages of welfare reform on low-income working mothers. The data we use for our primary analyses are for families receiving Child Care Subsidies in Dade County, FL (Miami and surrounding suburban and agricultural areas) between March 1996 and February 1997 who are not current or former recipients of cash assistance. For

convenience, we refer to these families as “Income-Eligible” families. We chose Dade County for our analysis because it is an area that is heavily impacted by welfare reform. The county contains both poor urban and poor rural areas and is home to approximately 1/3 of Florida’s welfare recipients.

We find that the influx of former welfare recipients to the low-income labor market and other indirect effects of welfare reform are associated with a significant decline in earnings for Income-Eligible families. However, the increase in Child Care Subsidies associated with welfare reform and the October 1996 increase in the minimum wage more than offsets these negative impacts.

To discern the extent to which these findings can be generalized, we also estimate the impact of welfare reform, the minimum wage increase and the increase in Child Care Subsidies on former recipients of cash assistance. Results are similar to the results for Income-Eligible families. Welfare reform is associated with a significant decline in earnings, but the increase in Child Care Subsidies associated with welfare reform and the minimum wage increase serves to offset the decline.

Finally, using Current Population Survey (CPS) data and a difference in differences approach, we find evidence that women with incomes below approximately \$40,000 experience a small decline in earnings subsequent to welfare reform.

The outline of the paper is as follows. In the next section, we describe in more detail the setting of the study, including a description of welfare reform in Dade County, Florida. Section III describes the data we use. Section IV outlines the empirical model that underlies our estimations. Section V describes the estimation techniques and Section VI contains our discussion of empirical results. In Section VII, we extend our work on the income-eligible families and provide results for former welfare recipients and low-income women in the CPS. The final section of the paper contains our conclusions.

II. The Setting

A. Welfare Reform—WAGES in Dade County

Florida’s Welfare Reform law (Chapter 414 of the Florida Statutes), generally referred to as the "Work and Gain Economic Self-Sufficiency (WAGES) Act," became

effective October 1, 1996. Florida, like a number of other states (e.g., Texas, Colorado), chose to delegate substantial responsibility for welfare reform to local areas. In Florida, local WAGES Coalitions containing representatives of the public sector, labor and local employers were given the primary administrative responsibility for welfare reform.

The WAGES program is designed to provide temporary assistance to needy families with children (i.e., those with incomes less than or equal to 130% of the federal poverty level [FPL]) and to provide parents with job preparation, work opportunities, and support services to enable them to become economically self-sufficient. Time limits under WAGES are more stringent than required under PRWORA or adopted by the majority of states. No adult recipient may receive cash assistance for more than 48 months. Cash assistance is limited to 24 consecutive months in any 60-month period.

The WAGES law requires that each adult WAGES recipient not otherwise exempt must participate in work activities for the maximum number of hours allowed under federal law.² Those exempt from work activities include: a) custodial parents with children under three months of age; b) recipients who are minor children under age 16; c) those eligible for benefits under Supplemental Security Income (SSI) due to age or disability; and d) custodial parents age 19 and younger who have not completed high school or equivalent who may be required to attend educational activities.

Applicants must be referred for employment at the time they apply for benefits. Florida's welfare reform is what is called in the literature a "work first" program. Jobs are central and welfare recipients are encouraged to move into jobs as rapidly as possible.

The requirement that custodial parents participate in work activities as soon as their youngest child is three months old is unusually stringent. Under Florida's AFDC program, cash recipients were required to participate in work or other approved activities only when their youngest child was three years old. PROWRA requires work activities when the youngest child is one year old.

To facilitate implementation of WAGES, the law decrees that employment counseling (provided by Florida's Department of Labor and Employment Security during the period we study) and determination of eligibility for benefits (WAGES, Food Stamps,

² PROWRA requires that 25% of the caseload participate in work activities for 20 hours per week in fiscal year 1997.

Medicaid, Child Care Subsidies) be consolidated in a single office. These consolidated offices are referred to as “one-stop” centers.

Florida's WAGES benefits are low. For example, a WAGES family of three, without housing subsidies, can receive a maximum of \$303 per month (\$3,636 per year) in cash assistance. This amounts to less than 30 percent of the 1995 Federal Poverty Level.

B. Dade County Florida

Dade County has a population of over 2 million. Fifty-five percent of the population in 1996 was Hispanic, 25 percent non-Hispanic white, and 20 percent was black (US Bureau of the Census, 1997). The largest Hispanic groups in the area are from Cuba, Colombia and Nicaragua. The black community is split between Afro-Americans and Caribbean blacks. Haitians form a large part of the Caribbean black population and constitute the poorest segment of that population in Dade County.

Dade County is an area of extreme contrasts. The area has a very high poverty rate for children (approximately 38%), that afflicts disproportionately and about equally the black and Latino populations (particularly recent immigrants). Dade's poorest areas range from Hispanic communities like Little Havana (predominately Cuban and Central American) to native black communities such as Liberty City and Overtown, to Haitian-American communities like Little Haiti, and migrant farm worker areas such as Homestead and Florida City. The area also has pockets of incredible wealth, such as Fisher Island, and is a destination point for many “jet setters.” Median household income is only \$26,743 (US Bureau of the Census, 1997).

Dade County has a long-standing tourism and retirement industry. However, the economy has diversified substantially since the 1960s and now contains large medical facilities, a number of higher educational institutions and a large number of small manufacturing industries. In addition, the County is a growing center for the film and TV industry and has become a hub for burgeoning trade and commerce with Latin America and the Caribbean.

Dade County has received relatively little attention from academic researchers to date, and yet it is one of the poorest and most racially and ethnically diverse areas in the

US. As close observers of the scene describe it: "The multilingual, multicultural experiment that is Miami holds important lessons for what the American city will be about in a changed world " (Portes and Stepick, 1993, p.xvi).

III. The Data

To examine the impact of welfare reform on the earnings of low-income families, we use a number of longitudinal databases. Our primary database is for Income-Eligible families receiving Child Care Subsidies because they have dependent children younger than 13 and incomes less than 150% of the FPL. These families are neither current nor former recipients of cash assistance.

We also use two longitudinal databases for former recipients of cash assistance. The first of these databases is for families receiving Transitional Child Care (TCC) subsidies. These subsidies are available to families with dependent children younger than 13 and with incomes less than 150% of the FPL. Families leaving AFDC were entitled to one year of TCC subsidies. Under WAGES, TCC benefits were extended to two years. The second database of former cash assistance recipients is for Former TCC (FTCC) subsidy recipients. These families have exhausted their entitlement to TCC, but qualify for subsidies under the FTCC program because they still have dependent children under 13 and incomes less than 185% of the FPL.

We create longitudinal databases for the above groups by combining data from a large number of sources. Our sources include: (1) records used to administer the Income-Eligible, TCC and FTCC Child Care Subsidies in Dade County, (2) child care provider records of the resource and referral agency that provides information on child care options to parents in Dade County, (3) employer data collected by the Florida Department of Labor in connection with the Unemployment Insurance program (i.e., ES202 data) (4) Florida Department of Labor data collected under its local area employment statistics program (the LAUS program), (4) administrative records for the Florida Department of Children and Families, (5) administrative records from the Dade County Public Schools, (6) administrative and programmatic records from United Way of Dade County, (7) interviews with personnel at all offices determining welfare eligibility in Dade county,

(8) the 1990 U.S. Census and (9) the U.S. Bureau of Labor Statistics cost of living indexes. See Table 1 for a listing of the variables we use and their sources.

Our observations on the earnings and other characteristics of Income-Eligible families in our samples come from the database used to administer the Income-Eligible Child Care Subsidy programs in Dade County. Under the Family Support Act and now PRWORA, working poor families who do not receive cash assistance are eligible to receive child care subsidies for their children under 13 if they are “at-risk” of becoming welfare dependent. States define families as being “at-risk” of welfare dependency based on income levels and family size. Income levels used are either based on the Federal Poverty Level (FPL) or are a percent of state median income. Because eligibility is determined by income level, these working poor families are called “income-eligible.”

Working poor families in Florida are eligible for Child Care Subsidies if their incomes are below 150% of the FPL and may continue to receive subsidies until the income exceeds 185% of poverty. Most families that receive Income-Eligible Child Care Subsidies have incomes and family structures that appear to make them eligible for cash assistance. Indeed, most of these families have monthly incomes that, even if sustained for an entire year, would not lift them above the FPL. However, these families differ significantly from families receiving cash assistance in characteristics other than income. Specifically, they are significantly more likely to be Latino or Haitian-American and to speak a language other than English at home. They are also significantly more likely to live in communities with large numbers of recent immigrants. Anecdotal evidence suggest that the failure to apply for cash assistance relates both to lack of knowledge of cash assistance programs and to social stigma associated with acceptance of cash assistance in some of Dade County’s immigrant communities. In our conversations with families in Dade’s new immigrant communities, we learned that many are willing to take money for their children, but not for themselves.

Because eligibility for Child Care Subsidies depends on family income, work and the number of children under 13, the data collected to administer child care subsidy programs are quite extensive. We were given access to these data as members of the Tri-

State Child Care Policy Research Partnership.³ Beginning in March 1996, we received monthly “snapshots” of Dade County’s Child Care Subsidy databases. Information available in the Subsidy databases includes: earnings on up to three jobs, information on family structure, and socio-demographic information (e.g., age, sex, marital status, race, country of origin) on up to eleven family members. We obtained information on all families receiving Child Care Subsidies during the period March 1996 through February 1997. There are 24,436 monthly observations on 2,791 Income-Eligible families, 6934 monthly observations on 1032 families that receive TCC subsidies and 5160 observations on 579 families that receive FTTC subsidies.

We were also given monthly snapshots of Dade County’s Child Care Resource and Referral database. This database contains extensive information about all licensed and registered child care providers. The database is used to provide information to all Dade County parents on the child care options available to them.

The Dade County Child Care Subsidy and R&R databases provide only part of the information needed to estimate the reduced form model for earnings described in the next section. In addition to the information in these administrative databases, we require information on: (1) policy and administrative changes, (2) other early childhood education (ECE) and child care subsidy programs, (3) local communities, (3) the costs of working and (4) the local labor market.

Our state and local Partners were able to supply us with information on policy and administrative changes in state/federal Child Care Subsidy programs. We obtained information on ECE programs directly from the Community Action Agency that runs Head Start in Dade County and from the Dade County public schools which administers Pre-Kindergarten programs and some Head Start programs. The major source of private child care subsidies in Dade County is United Way. We worked with United Way to

³ The Tri-State research partnership is a partnership of university researchers, state and local policy makers, and state and local child care administrators. It is one of several initiatives by the US Department of Health and Human Services intended to foster better research on low-income families and their economic struggle towards self sufficiency. As members of this partnership, we have worked closely with state and local public service administrators in Alabama, Florida and Massachusetts.

obtain the amount of funds that they allocated to each of their subsidized providers and to determine which children were eligible for subsidies under each program.

We were able to follow the implementation of Florida's welfare reform because the first author was a member of the Research and Evaluation Subcommittee of the WAGES Coalition of Dade and Monroe Counties.

We obtained information on the local labor market and on the earnings of child care workers in Dade County using the ES202 and other Florida Department of Labor data bases. The ES202 data were provided as part of a special contractual agreement between Dade County's state university, Florida International University, and the Florida Department of Labor.

Table 1 lists all variables used in the analysis and gives sources for each and Table 2 provides descriptive statistics for the Income-Eligible sample.

Like all data, administrative data have both strengths and weaknesses. Strengths include continual updating and large enough samples to allow finer small area analysis than is generally possible with research databases. Recent work in labor economics (e.g., Heckman, et al., 1998, Hoynes, 1996) and on child care (e.g., Queralt and Witte, 1998) emphasize the need for such local area analysis to understand labor market outcomes for working families with children. This work provides evidence that results obtained using national databases can produce biased results due to the inability to control for local area characteristics.

An additional potential benefit of our administrative samples is that the families we study are more likely to be similar in their unobservable characteristics than are families in a random sample of the population. The families in our sample are virtually all headed by a female single parent, facing economic hardship, and facing a similar set of employment choices. See Table 2 for descriptive statistics for the Income-Eligible sample.

The major weaknesses of administrative data generally include sample and variable selection. Variable selection is less of a problem for us than for much work using administrative data because the data base used to administer the Child Care Subsidy programs in Dade has an unusually rich array of variables. We are not forced as is much

work using administrative data to rely on aggregate information to proxy individual characteristics (e.g, Hoynes, 1996). Sample selection may be more of a problem.

To explore the sample selection issue, we selected females from the Current Population Survey (CPS) with characteristics comparable to our sample.⁴ The CPS is the largest ongoing data collection in Dade County. Every month, the CPS obtains information on a stratified random sample of approximately 1200 Dade families. We use the Outgoing Rotation Groups for the period March 1995 through February 1997 to discern if the earnings effects we find when using our Child Care Subsidy databases are similar for a broader group of low-income, working women.

The overall employment pattern of low-income women in the CPS is quite similar to the employment pattern of the women receiving Child Care Subsidies reported by Griesinger, et al. (1997). To be more specific, 70 percent of the women in our CPS sample were employed in retail trade and services while 80 percent of the families receiving Child Care Subsidies were employed in these industries. Six percent of the women in our CPS sample were employed in non-durable manufacturing and 5 percent of the women receiving Child Care Subsidies. Low-income women in the CPS sample were more likely than low-income women receiving subsidies to be employed in transportation (6% v.3%) and in Finance, Insurance and Real Estate (7% v. 4%).

As might be expected, low-income women receiving Child Care Subsidies differ substantially in socio-demographic characteristic from the low-income women in the CPS sample. Seventy-six percent of our CPS sample indicates that they are white while only 51 percent of the women receiving Income-Eligible Child Care Subsidies indicated that they were white. Sixty-one percent of our CPS sample indicate that they are Hispanic and 43 percent of the women receiving Child Care Subsidies indicate that they are Hispanic. Fifty-one percent of our CPS sample indicate that they are married while only 4 percent of Income-Eligible subsidy recipients indicate that they are married. Women receiving Income-Eligible subsidies are also less educated than women in our CPS sample. Forty one percent of women in our CPS sample have some education beyond high school while

⁴ To be more specific, we selected women between the ages of 17 and 59 with earnings of less than 185% of poverty for a family of six (i.e., less than \$38,554) and with 14 years or less of education.

only 4% of the women receiving Child Care Subsidies have post high school education. Unmarried, poorly educated, black women are over represented in the sample we use. We control for the above socio-demographic characteristics in our analyses.

The Child Care Subsidy samples contains only low-income families that apply for and receive Child Care Subsidies. Work by Blank and Ruggles (1996), Heckman and Lalond (1998) and Yelowitz (1995) provides models of program participation that indicate that program participants are likely to be those for whom net program benefits are largest and those with more information regarding the programs. The structure of the co-payment schedule for Child Care Subsidies ensures that families with more children and younger children will benefit more from Child Care Subsidies than will families with older and/or fewer children. One might reasonably expect better-educated families with older heads and English as the primary language to have better information regarding the subsidy programs. Similarly, Afro-Americans may have better information due to historically high participation rates in government programs in Dade County and residents in the central city may have better information due to denser information networks. In our estimation, we control for these factors found to be associated with program participation.

While we are able to control for differences in observable characteristics, we can, of course, not control for any unobservable ways in which our Child Care Subsidy samples differ from the broader group of low-income women. If unobservable factors that make people more likely to know about and apply for Child Care Subsidies are correlated with unobservables in the earnings model we estimate, it may not be possible to generalize our results to low-income families who do not receive Child Care Subsidies.

The longitudinal nature of our data allows us to control for unobservable family-specific effects. This makes selection bias less likely. However, it is still possible.⁵ To

⁵ To correct for selection bias in the sample econometrically, one can condition on factors that lead to participation in the Income-Eligible Child Care program. This may be done in a number of ways. For example, one might estimate a program participation model using a random sample of low-income families eligible for, but not necessarily receiving, Income-Eligible Child Care Subsidies and condition the earnings equations on polynomials in the estimated probability of participation. See Heckman, et al. (1998a) for

further explore, the degree to which our results for Child Care Subsidy recipients can be generalized, we use a difference in differences approach to discern if the early stages of welfare reform had similar earnings effects for our low-income CPS sample.

IV. Empirical Model

Our empirical model is a reduced form model for the earnings of the low-income workers in our sample. To specify the vector of socio-demographic and human capital variables, we draw on the existing literature on the earnings of low-income families. See Blank (1997), Eissa and Liebman (1996), Harris (1996), Kim and Mergoupis (1997) and Pavetti and Acs (1997) for recent examples and reviews of previous literature. To develop exogenous measures that reflect administrative and policy changes, we follow Eissa and Liebman (1996), Meyer and Rosenbaum (1997) and Moffitt (1992). To be specific, we model the log of monthly earnings ($LNEarn$) as a function of human capital and socio-demographic variables (H), policy variables ($Policy$), administrative variables (A), the costs of working (C), local labor market conditions (LM) and a community-specific fixed effect:

$$LNEarn = Hb + Policyd + Ag + Cf + LMj + Communityg + e.$$

The parameters of primary interest are associated with the Policy variables. These variables include (1) Child Care Subsidy funding per eligible child⁶ and (2) two variables reflecting the implementation of “one-stop” centers. We also include an indicator variable for October 1, 1996. This variable will reflect the effects of the October 1, 1996 increase in the minimum wage, and psychological and administration changes associated with the early stages of welfare program that we do not control for explicitly.

A. Interpretation of the October 1, 1996 Indicator Variable

a discussion. As far as we are aware, there are no databases currently available that would allow estimation of a participation equation for Income-Eligible Child Care Subsidies.

⁶ The level of Child Care Subsidy funding in Dade County can reasonably be considered exogenous since funding is allocated on the basis of an equity sharing rule that includes such things as geographic area, the percent of children in poverty and the number of people on cash assistance.

Interpretation of results for the October 1 indicator variable requires the use of both the existing literature and CPS data. A \$.50 per hour increase in the minimum wage (from \$4.25 to \$4.75) took effect on October 1, 1996. During the month of October 1996 recipients of cash assistance were told of time limits on cash assistance, activity requirements, sanctions and other aspects of welfare reform. While these aspects of welfare reform actually had their direct impact after our study period, they appear to have had some indirect, possibly psychological, impact during the early stages of welfare reform.⁷ Our empirical results do not provide separate estimates for the minimum wage increase and any indirect effects of welfare reform since the changes occur simultaneously.

Fortunately, both economic theory and the existing literature suggest that the two changes are likely to have either no effect or effects that move in opposite directions. The existing literature on the elasticity of demand for labor and the effects of a minimum wage increase suggests that the minimum wage increase would either increase earnings or leave earnings unchanged.⁸

The effective date of welfare reform is associated with both an increase in the probability of working by welfare recipients and a marked decline in the welfare rolls. To be more specific, a multivariate model for the probability that a non-working recipient of cash assistance would begin to work during our sample period indicated that the October 1 changes significantly increased the probability that a non-working recipient would work by 1%.

⁷ For example, after October 1, 1996, recipients were required to be active after their youngest child was three months old. If this aspect of welfare reform had been implemented during our study period, we would have seen a drop in the age of the youngest child for active welfare recipients. Instead, the age of the youngest child of active welfare recipients remained virtually unchanged during our study period (mean of 3.06 in March 1996 to mean of 3.05 in February 1997). Welfare-related sanctions only began to increase markedly in March 1997. Recipients began reaching their time limits in October 1998.

⁸ After a careful survey of the literature, Hammermesh (1986) indicates that the most likely value for the long-run elasticity of demand for labor is .3. The minimum wage literature indicates that an increase in the minimum wage will either decrease the availability of jobs or leave the availability of jobs unchanged. See Card and Krueger (1995, 1998) and Abowd, et al.(1998) for recent work and surveys of the previous literature.

During the period of our study, there was a precipitous decrease in the number of families receiving cash assistance in Dade County. The number of adults receiving cash assistance was approximately 40,000 in February 1996. As can be seen in Figure 1, rolls declined modestly and then increased modestly from March through September 1996. Beginning in October 1996 rolls began to decline quite rapidly. By March 1997, the number of adults receiving cash assistance was approximately 32,000. To discern what these drop outs from welfare reform were doing, we carried out a small survey. Survey results indicate that approximately 44% of these dropouts are working.⁹

Using the above information on the increase in employment for welfare recipients and the number of welfare “drop outs” obtaining jobs, we estimate that changes associated with the early stages of welfare reform increased Dade County’s employed population by approximately .5%. During the period of this influx, the number of jobs in Dade County grew by less than 2%. This small influx is unlikely to affect the earnings of Dade workers as a whole, but it may affect the earnings of low-income women.

Using the CPS, we estimate that there were approximately 182,000 low-skill, female workers in retail trade and services in Dade County. The estimated influx of approximately 4000 workers into this sector due to welfare reform led to an estimated 2% increase in employees in these industries. Given the low rate of job creation in Dade, such an influx may impact the labor market for low-skilled women. Our conclusion is similar to Bartik’s (1998) for the US as a whole.

To summarize, we would expect the minimum wage increase to leave unchanged or increase earnings of low-income workers. We would expect the influx of former welfare recipient to the low-skill labor market and possible other indirect effects of welfare reform to leave unchanged or decrease the earnings of low-income workers. The net effect of the two changes is an empirical issue.

If we find that the simultaneous increase in the minimum wage and any indirect effects of welfare reform leads to an increase in earnings for low-income women, the most likely explanation is the increase in the minimum wage. However, if we find that the simultaneous increase in the minimum wage and indirect effects of welfare reform

⁹ This employment rate is consistent with employment rates found in other surveys. See Bartik (1998) for a survey.

lead to a decrease in earnings for low-income women, the most likely explanation is indirect and unmeasured effects of the early stages of welfare reform.

B. Child Care Subsidy and ECE Programs

As far as we are aware, there has been no previous studies that examine the impact of the availability of child care subsidies and ECE programs on the earnings of low-income families. This may not be surprising for, at least, two reasons. First, funding for Child Care Subsidies only became substantial after passage of the Family Support Act in 1988. Second, until PRWORA, Child Care Subsidy programs were funded from a bewildering array of sources and programs differed substantially across states. Child Care Subsidies are central to welfare reform and have received increased funding as a result of welfare reform.

1. Federal/State Child Care Subsidy Programs

During the time of our study, Florida's Child Care Subsidy program was divided into two parts. One set of subsidy programs served current and former recipients of cash assistance. Another program, the Income-Eligible Child Care Subsidy program, served low-income working parents who were "at-risk" of becoming recipients of cash assistance. Welfare reform resulted in a large increase in the budget for both of these Child Care Subsidy programs. We reflect these increases by including the amount of State/Federal Subsidy funding available per child eligible for subsidy.

Families receiving Child Care Subsidies under the TCC, FTCC and Income Eligible programs are required to pay part of the cost of care for their children. The amount of these "co-payments" depends on family income, family size and whether care is part-time or full-time.

To reflect important aspects of the Child Care Subsidy co-payment schedule, we include the following variables in our specification: (1) the average rate at which parental co-payments for child care increase as income increases and (2) a variable that reflects the fact that co-payments for care of a second and subsequent children are only half of the co-payment required for the first child in care.

2. ECE and United Way Subsidies

There are two major ECE programs operating in Dade County and most other areas of the country—Head Start and Pre-Kindergarten (Pre-K) programs. Head Start was begun in the 1960s as part of the War on Poverty and is funded by direct federal grants to agencies that administer Head Start programs. Many agencies administering Head Start programs, including most agencies in Dade County, have administered Head Start programs since the 1960s. Head Start programs are generally part-day, part-year programs. We distinguish Head Start programs in public schools and Head Start programs administered by Dade County’s Community Action Agency (CAA), an agency established in the 1960s to fight poverty. We also distinguish Head Start programs that provide “wrap-around” care. Such programs provide care before or after the end of the standard Head Start program so that children can remain in care during normal working hours. Our measure of the availability of care is the enrollment in each type of Head Start program per child eligible for care in each zip code in Dade County.

Most Pre-K programs are associated with public schools and receive their funding from the local school board. We distinguish Pre-K programs that are provided free by the public schools to four-year-old children living in poverty and public school child care programs that charge fees and are available to children less than 13. Our measure of the availability of care in these programs is the enrollment per eligible child in the zip code.

United Way provides subsidies directly to providers in economically distressed communities. Eligibility varies with the program subsidized. For each program subsidized by United Way in Dade County, we calculate the dollar amount of subsidies per child eligible for the particular program.

V. Estimation

As is well known, estimation of models using longitudinal data requires use of specialized statistical methods.¹⁰ In our application where we observe families over time, we are concerned with unobservable family-specific attributes that may enter the earnings

¹⁰ See Chamberlain (1984) or Greene (1997) for more detailed discussions of techniques for estimating models using longitudinal data.

equation and thus affect the consistency of the estimation. The most commonly used estimators for longitudinal data are the fixed-effects estimator and the random-effects estimator. The fixed-effects estimator requires that the unobservable-family specific effect be constant or fixed over time. This estimator requires few other assumptions, but is not efficient because it does not utilize time-invariant information. Also, as noted by Green (1997), fixed-effects results strictly apply only to the estimation sample and can not be generalized to other samples.

By way of contrast, random-effects estimators use all the information contained in both the time series and cross sectional variation in the data and, thus, produce more statistically efficient results than the fixed-effects estimator. Due to the stochastic nature of the family-specific effect, generalization to samples other than the estimation sample rests on firmer grounds (Green, 1997). For consistency, the random-effects estimator requires that included regressors be uncorrelated with the family-specific effect, which is relegated to the error term.

The traditional random-effects estimator has been criticized because it imposes a correlation on the unmeasured, random family-specific effects that is constant through time. This is equivalent to the assumption that unmeasured family-specific behavioral patterns have a correlation that is constant across time. Most behavioral models suggest that, while behavior is correlated across time, the level of correlation declines as one moves back in time. That is, most behavioral models would predict that the correlation of the family-specific effects is highest for adjacent time periods and declines as time periods are separated by increasingly longer periods. To allow for this possibility, one can use a generalized random-effects estimator that imposes no structure on the correlation of the family-specific random effects (Liang and Zeger, 1986, Zeger and Liang, 1986 and Liang, Zeger and Quqish, 1992).

We estimate parameters of our earnings model using each of the three estimators.¹¹ Due to the flux in the Child Care Subsidy rolls, our longitudinal data is

¹¹ To be specific, for the underlying model $Y_{it} = X_{it}\beta + \nu_i + \varepsilon_{it}$, the fixed effects estimator minimizes the criterion function: $|\tilde{Y} - \tilde{X}\mathbf{b}|' \text{Var}(|\tilde{Y}|^{-1}|\tilde{Y} - \tilde{X}\mathbf{b}|)$ where \tilde{Y} and \tilde{X} are deviations from family-specific means and $\text{Var}(\tilde{Y})$ is, as usual, a diagonal matrix with diagonal element i equal to the $\text{Var}(\varepsilon_{it} - \varepsilon_i)$. Similarly, the random effects estimators

“unbalanced.” That is, the number of months of data available for individuals varies. Because the error term for models estimated with unbalanced panel data is heteroskedastic, we provide standard errors that are robust to heteroskedasticity.

Columns 2 and 3 of Table 3 contain results for the fixed-effects estimator and the traditional random-effects estimator for the Income-Eligible sample. We find that these two estimators produce results that are very similar for the variables of primary interest. The Breusch and Pagan Lagrangian multiplier test for random-effects, which is distributed χ^2_1 under the null hypothesis that the variance of the family-specific random effects is zero, is 45,505. The test strongly supports rejection of zero variance for the family-specific effects, implying that some type of random effects model is consistent with the data.

Results for this unstructured random-effects estimator are reported in column 4 of Table 3. The estimated correlation matrix for the family-specific random effect indicates, as suggested by behavioral models, that behavior is most highly correlated for adjacent months (e.g., the unmeasured family-specific effects for February 1997 are most highly correlated with the family-specific effects for January 1997) and that the correlation of behavior declines as we move back in time. For example, for families that we observe for our entire 12-month study period, the correlation of the unmeasured family-specific effects goes from 1 for January and February 1997 to .39 for March 1996 and February, 1997. The χ^2 statistic for the random-effects model with the unstructured errors is much larger than the χ^2 statistic for traditional random-effects model. This suggests that the unstructured random-effects model captures patterns in the data that are not accounted for by the traditional random-effects model.

Finally, to improve the efficiency of our estimates, we reduce our specification to the set of variables that minimizes the mean squared error. This is a widely used model

minimize the criterion function: $(Y - X\beta)' \text{Var}(Y)^{-1} (Y - X\beta)$, where $\text{Var}(Y)$ is a block diagonal matrix with symmetric, family-specific $T_i \times T_i$ matrices on the diagonal. For the traditional random effects estimator, each of these $T_i \times T_i$ matrices has constant covariance parameters ($\text{Cov}(\nabla_{i,t}, \nabla_{i,t'}) = \Delta$ for all t and t') off the diagonal and $\text{Var}(\nabla_i + \epsilon_{it})$ on the diagonal. The unstructured random effects estimator does not require the off-diagonal covariance parameters to be the same. Rather, as suggested by many behavioral

specification-reduction criterion. See Leamer (1983).

Results for the reduced specification are given in column 5 of Table 3. We emphasize these results in our discussion below, but the discussion of the impact of Child Care Subsidies, indirect effects of welfare reform and the minimum wage increase would change only slightly if we were to use the results in any other column of Table 3. Our results for these variables are robust across the estimation technique and specifications we have used.

VI. Results

Regardless of estimation technique, we find that the increase in federal and state funding for Child Care Subsidies that occurred along with welfare reform was associated with a significant increase in earnings for the Income-Eligible families in our sample. Results obtained using the unstructured random-effects estimator indicate that a 10 percent increase in state/federal funding for Child Care Subsidies is associated with a 4.5% increase in earnings of Income-Eligible families. For a representative member of the Income-Eligible families in our sample, we estimate that the approximately \$38 per eligible child increase in child care subsidies funding that we observe to be associated with the early stages of welfare reform would lead to an increase in monthly earnings of between \$60 and \$103, with an increase of \$81 being most likely.

We find that the combined effect of the October 1, 1996 minimum wage increase and the indirect effects of the early stages of welfare reform was to significantly decrease the earnings of Income-Eligible families. Like the previous result, this result is robust across estimation techniques. Results obtained using the unstructured random-effects estimator indicate that the combined effect of the October 1, 1996 changes was to decrease the earnings of Income-Eligible families by approximately 6 %. This implies that the monthly earnings of a representative Income-Eligible family decreased by between \$35 and \$78, with a decline of \$57 being most likely. This is a substantial decline in income for families that are already living below poverty.

models, it allows $\text{Cov}(\nabla_{i,t}, \nabla_{i,t'})$ to vary as the length of time between time periods t and t' increases.

Relying on our earlier discussion, our results are consistent with the contention that the increase in the number of low-income, female workers associated with welfare reform caused this decline in earnings. To test this contention, we add the change in the number of able-bodied, adult cash-assistance recipients and the change in the number of cash-assistance recipients working to our model. Both the change in the number of able-bodied subsidy recipients and the change in the number of cash assistance recipients working are associated with a decline in the earnings of Income-Eligible Child Care Subsidy recipients. However, only the coefficient on the change in the number of able-bodied cash-assistance recipients is statistically significant at normal levels (z-statistic of -2.93). The addition of these variables to the specification lowers the magnitude of the coefficient on the October 1 binary from $-.056$ to $-.046$, but the coefficient on the binary remains significant. These results indicate that the influx of low-income female workers to the labor market provides only a partial explanation for the decline in earnings associated with the early stages of welfare reform.

Our data do not allow us to discern the impact of the October 1 changes on hours and wages separately. Using the CPS sample of low-income women described in Section III, we find evidence of a wage increase and a decline in the number of work hours as a result of the October 1 changes. The average hourly earnings of the CPS sample was \$7.47 between March 1996 and September 1996 and \$8.22 between October, 1996 through February, 1997 period. This first difference shows an increase in mean hourly wage of \$0.75. The same first difference for hours shows an increase of 2.3 hours per month between March through September 1996 and October 1996 through February 1997.

To control for the strong seasonality in the Dade County economy, we compare the change in wages and hours during our 1996/1997 study period with the changes in wages, hours and earnings during the same months in 1995/1996.¹² That is, we control for seasonality by taking the difference between the difference in wages and hours before

¹² We are only able to compare the March, April May and September to October, November December January and February because substate geographic data were suppressed on all public use CPS files for June, July and August 1995 because of confidentiality concerns arising from sampling and metropolitan areas changes. Email for Robert McIntire, Bureau of Labor Statistics, December 23, 1998.

and after October for the 1996/1997 study period and the difference in the equivalent pre and post period in 1995/1996, a difference in differences approach. The difference in the differences in mean hourly wage is \$0.76, the difference in the differences for mean hours worked per month is -3.98 hours. We conclude that the decline in earnings for low-income families resulted from a decline in work hours and that the October 1 minimum wage increase, like the increase in Child Care Subsidies, served to lessen the impact of welfare reform on the low-income, female labor market.

During the period of our study, the earnings enhancing effects of increased Child Care Subsidies and the increase in the minimum wage appear to have more than offset the deteriorating condition in the low-income labor market associated with the influx of current and former cash-assistance recipients and other indirect effects of the early stages of welfare reform. To be more specific, we estimate that as a whole the policy and administrative adjustments that occurred during the period October 1996 to February 1997 resulted in a change in monthly earnings of between -\$18 and \$68 for the Income-Eligible families in our sample, with a gain in earnings of \$25 being most likely.

We find weak evidence that the presence of employment counselors at “one-stop” centers leads to an increase in earnings of Income-Eligible families.

Estimates obtained using the unstructured random-effects estimator show no significant impact on earnings of the availability of ECE or United Way child care programs. Results for the fixed-effects estimator indicate possibly beneficial effects of the availability of some types of Head Start programs.

Our estimates indicate that higher rates of increase in parental co-payments for child care are associated with lower earnings, all other things equal. While the sign of the coefficient on the co-payment rate is consistently negative, it is not significant when the fixed-effects estimator is used.

More education is consistently associated with higher earnings.¹³ This result is significant for both random-effects estimators, but not for the fixed-effects estimator. Results obtained with the unstructured random-effects estimator indicate that an

¹³ We also estimated specifications with a binary for high school graduation and specifications with the squared value of education. The coefficients on these variables were insignificantly different from zero.

additional year of education is associated with an increase in earnings of \$14 per month. Some care should be exercised when interpreting this result. Recall that we have only a year of data on the families in our sample. During this year, we do observe increases in education. However, there is insufficient variability over the year to yield a significant fixed-effects coefficient estimate.

Most welfare reforms, including Florida's, downplay education and push for direct job training and work experience. This represents a change in emphasis from many earlier welfare to work programs and may have important implications for the long-term ability of low-income cash assistance recipients to escape poverty. Clearly, work with longitudinal data that extends for a longer period of time would be valuable. It could provide more unambiguous evidence of the likely effect of increases in education for particular individuals.

Results obtained using random-effects estimators indicate that age has no significant effect on earnings. Results obtained using the fixed-effects estimator yield the usual inverted u-shaped and significant age-earnings profile. The fixed-effects estimates indicate that earnings increase with age until the age of 44 and decline thereafter. Because the fixed-effects estimator uses only variations in deviations from family-specific means, these estimates represent true age, not cohort effects. Recall that the random-effects estimators use the full information contained in both the time series and cross-sectional variation in the data. The coefficients on age obtained with random-effects estimators will, thus, reflect both true age effects and cohort effects. Cohort effects for US women born during the post World War II period are generally negative, with younger cohorts (e.g., women born during the 1970s) generally earning more (other things equal) than older cohorts (e.g., women born during the late 1940s and 1950s). The random-effects estimates reported in Table 3 indicate that age has no significant effect on earnings because they reflect countervailing true age effects and cohort effects.

We find that higher earnings for child care workers have consistently significant effects on the earnings of Income-Eligible families. We find that a 10% increase in the median earnings of child care workers leads to a 0.8 % decline in the earnings of the members of our Income-Eligible sample.

Like Heckman, et al. (1998) and Hoynes (1996), we find that local labor market conditions have a significant impact on the earnings of low-income workers. To be more specific, we find evidence that increases in the jobs available in retail and wholesale trade are associated with significantly higher earnings for the low-income workers in our sample, while increases in jobs available in services are associated with significantly lower earnings.

Our results for community fixed effect reinforce the importance of local community factors. Community fixed-effects are a highly significant determinant of the earnings of Income-Eligible families in Dade County.¹⁴ In general, the results for community fixed-effects indicate that the earnings of Income-Eligible families will be higher when the family lives in a mixed-income, suburban community such as South Miami and lower when the family lives in a rural, agricultural community such as Florida City. A detailed discussion of other results is available in Witte, et al. (1998b).

VII. Generalizability/Sample Selection

An important issue is the degree to which our results can be generalized or suffer from sample selection bias. To further explore the sample selection issue, we add a set of variables that more fully reflects the way in which child care costs and, hence, potential benefits of the subsidy program will vary with the age of the child. To be more specific, we include binaries that indicate whether the youngest child is less than 1 or between 1 and 3. We also include binaries for whether or not the youngest child was between 4 and 5 by September 1 (qualified for Pre-K and Head Start), whether the child was between 5 and 6 on September 1 (qualified to be in kindergarten) and whether the youngest child was 6 or more on September 1 (required to attend public school). The addition of these control variables slightly decrease the z-statistic for Child Care Subsidies (from 7.5 to 7.4) and slightly increases the z-statistic for the October 1, 1996 binary (from -5.1 to -5.2). The substance of our results does not change.

To further explore the degree to which our results can be generalized, we estimate our model of earnings for the former recipients of cash assistance who are receiving TCC

or FTCC Child Care Subsidies. Results for these two groups of former welfare recipients for the variables of primary interest are similar to results for Income-Eligible Child Care Subsidy recipients and lead to the same substantive conclusions. Increased funding for Child Care Subsidies is associated with significantly higher earnings and the October 1, 1996 binary is associated with significantly lower earnings. The coefficients on the October 1 binary are larger in absolute magnitude for the TCC and FTCC samples (-.074 for the TCC and -.078 for the FTCC vs. -0.56 for the Income Eligible) and the z-statistic is smaller in absolute value (-2.43 & -2.90 vs. -5.15). The coefficients on the subsidy variable are roughly double the magnitude of the coefficient for the Income Eligible, but the z-statistics are somewhat lower (4 for TCC families and 5 for FTCC families vs. 7 for Income-Eligible families). These results indicate that our findings can be generalized at least to former recipients of cash assistance who receive Child Care Subsidies.

The CPS data do not allow the type of multivariate analyses that we have carried out for low-income women receiving Child Care Subsidies. However, we can use the same difference in differences approach used in the previous section to discern if the CPS sample of low-income women in Dade experience changes in earnings after welfare reform that are similar to the changes experienced by our Child Care Subsidy samples. The first difference in mean monthly earnings for the period before and after October 1, 1996 is \$100.45. The first difference in mean monthly earnings for comparable periods in 1995/1996 is \$110.24. The difference in these differences is -\$9.79.

VII. Conclusions

We provide evidence that the earnings of four separate samples of low-income women who do not receive cash assistance in Dade County were impacted by welfare reform. This type of spillover affect has also been found for large scale employment and training programs. See Heckman, Lalond and Smith (1998) for a survey.

Two other literatures may be related to our results. The literature on the impact of immigration on the wages of the native born and the literature on the effect of the rise in the labor force participation of women during the 1970s and 1980s on the wages of low-

¹⁴ For space considerations, we suppress the coefficient estimates associated with the community fixed effects. These are available from the authors upon request.

income women. Card (1990) considers the impact of the Mariel boatlift that brought approximately 125,000 Cubans to Dade County between May and September in 1980. Card finds that the influx of “Marielitos” to the Dade County labor market had virtually no long-run impact on the employment rate or wages of the native born in Dade County. However, Card finds that the influx did cause a substantial decline in the wages of Dade County’s Cubans. Card attributes this decline to a combination of “quality” dilution of the Cuban labor force and a decrease in returns to skills for Cubans in Dade County. The same type of dynamic may be operating in Dade County during the early stages of welfare reform. The quality of low-income female workers may be declining and the returns to skills or experience for these workers may also be declining.

Blank (1997) reports that during the period of rapid increase in female labor force participation (1967 to 1993) the wages of highly skilled women increased markedly while the wages of less-skilled women declined. This illustrates the vulnerability of the low-skill, female labor market to influxes of new workers.

As far as we are aware, there has been no other study to date on the impact of welfare reform on the low-skill labor market that uses data for a period before and after welfare reform. However, researchers have tried to draw implications regarding the likely impact of welfare reform on the low-skill labor market by surveying the literature on previous welfare reform efforts and by simulations. After surveying the literature, Solow concludes “the burden of adjusting to any genuine replacement of welfare by work will fall primarily on low-wage workers, especially those virtuous ones who have been employed all along. The burden will take the form of lower earnings and higher unemployment in proportions that are impossible to guess in advance.” (Solow, 1998, p. 28). After reviewing the literature on the impact of welfare reform and performing very careful simulations, Bartik (1998) concludes that welfare reform is likely to have significant effects on the earnings of less-educated women during the 1993-2005 period. Our results are consistent with the conclusions reached by these authors.

Our results also indicate that other policy changes that occurred either as a part of welfare reform or coincidentally with it have served to lessen the impact of welfare reform on the earnings of low-income women. To be more specific, we find that the substantial increase in the availability of child care subsidies that was an integral part of

welfare reform and the October 1, 1996 increase in the minimum wage served to offset the decline in earnings that resulted from the influx of current and former welfare recipients to the low-skill labor market and other indirect effects of the early stage of welfare reform.

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Table 1
Definition of Variables and Sources

THEORETICAL CONSTRUCT	Empirical Measure	Source
Dependent Variable		
Earnings	Monthly Earnings on all jobs	Dade County Income-Eligible Subsidy Files
Explanatory Variables		
1. Policy Variables		
Welfare Reform/Minimum Wage Increase	A Binary Equal to One after Welfare Reform and the Minimum Wage Increase and Zero Before	Administrative Records and Income-Eligible Subsidy Files
Child Care Subsidy Variables		
State/Federal Child Care Subsidies	State & Federal Child Care Subsidy Funding per Eligible Child	Department of Children & Families Accounting Records, 1990 US Census and Dade County Public Schools Food Service Accounting Records
Parental Co-Payments	Average Rate at which Parental Co-payments Increase as Earnings Increase	Department of Children & Families Administrative Records
Lower Co-Payments for Second and Subsequent Children Receiving care	A Binary Variable Equal to One if More Than One Child in the Family Is in Subsidized Care	Department of Children & Families Administrative Records
Private Child Care/Child Development Subsidies	United Way Subsidy per Eligible Child in Zip Code	Accounting & Programmatic Records United Way of Dade County
Early Childhood Education Variables		
Head Start	Capacity-Vacancies in CAA Head Start Centers in Zip Code/number of children 5 & under in poverty in zip code	Head Start Center data Dade County R&R files and Dade County's Community Action Agency (CAA)/ 1990 census
	Capacity-Vacancies in Head Start Centers in Public Schools in Zip Code/number of children 5 & under in poverty in zip code	Head Start Center data from Dade County R&R files and Dade County Public Schools/1990 census
	Capacity-Vacancies in Head Start Centers with Wrap Around Care in Zip Code/number of children 5 & under in poverty in zip code	Head Start Center data from Dade County R&R / 1990 census
Pre-Kindergarten (Pre-K)	Capacity-Vacancies of Pre-Ks with Zero Price in Zip Code/number of 4 year old children in poverty in zip code	Pre-K data from Dade County R&R files and Dade County Public Schools/1990 census
Other Child Care Programs in Public Schools	Capacity-Vacancies of Public School Child Care with Fees in Zip Code/number of children <=13 in zip code	Pre-K data from Dade County R&R files and Dade County Public Schools/1990 census
2. Administrative Variables		
One Stops	Number of Programs Administered by the Local Eligibility Determination Office	Interview with Local Eligibility Determination Offices
	A Binary Equal to One if the Local Eligibility Determination Office Has an Employment Counselor	Interview with Local Eligibility Determination Offices, Summer 1997
Caseload	Number of Clients per Worker at Eligibility Determination Office	Interview with Local Eligibility Determination Offices

3. Human Capital/Socio-Demographic Variables		
Age	Age of the Subsidy Recipient and the Squared Value of Age	Dade County Income-Eligible Subsidy Files
Education	Subsidy Recipients Years of Education	Dade County Income-Eligible Subsidy Files
Gender	A Binary Equal to One if Subsidy Recipient Is Female and Zero Otherwise	Dade County Income-Eligible Subsidy Files
Current Marital Status	A Binary Equal to One if Subsidy Recipient Is Currently Married and Zero Otherwise	Dade County Income-Eligible Subsidy Files
Previous Marital Status	A Binary Equal to One if Subsidy Recipient is Separated, Divorced, or Widowed and Zero Otherwise	Dade County Income-Eligible Subsidy Files
Language	A Binary Equal to One if Family Language Is English and Zero Otherwise	Dade County Income-Eligible Subsidy Files
Race	A Binary Equal to One if Subsidy Recipient Is Black and Zero Otherwise	Dade County Income-Eligible Subsidy Files
Ethnicity	A Binary Equal to One if Subsidy Recipient is Hispanic and Zero Otherwise	Dade County Income-Eligible Subsidy Files
	A Binary Equal to One if Subsidy Recipient is Haitian and Zero Otherwise	Dade County Income-Eligible Subsidy Files
Number of Children	Total Number of Children < 18 Resident in Family	Dade County Income-Eligible Subsidy Files
Age of Youngest Child	Age in Years of Youngest Child in the Family	Dade County Income-Eligible Subsidy Files
Availability of Informal Care	A Binary Equal to One if Receives Voucher or Has Individual Age > 13 in Household and Zero Otherwise	Dade County Income-Eligible Subsidy Files
4. Costs of Working		
Costs of Child Care	Median Quarterly Earnings of Child Care Workers in Zip Code	Florida Department of Labor Es202 Files
	Median Rent Per Room of Houses in Zip Code	US Census of Housing, 1990
Transportation Costs	Price Index for Transportation	US Bureau of Labor Statistics, CPI-W—Transportation Cost Index
	Mean Travel Time to Work for Zip Code Residents	US Census of Population, 1990
Clothing Costs	Price Index for Clothing	US Bureau of Labor Statistics, CPI-W—Clothing & Apparel Cost Index
5. Local Labor Market Conditions		
Availability of Low-Skill Jobs	Employment Growth Rates in (1) Non-durable Manufacturing, (2) Retail & Wholesale Trade, (3) Personal, Business & Health Services & (4) Government	Florida Jobs & Benefits, Region VIII

6. Community Effects

Community Fixed Effects	A Set of 22 Community Specific Binaries Equal to One if the Subsidy Recipient Resides in the Community and Zero Otherwise	Metro-Dade Taxing Jurisdictions and Maptitude GIS Software
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Table 2
Descriptive Statistics
(n=24,361)

Variables	Median	Mean	Standard Deviation
<i>Dependent Variable</i>			
Monthly Earnings	\$975.00	\$1,017.76	\$392.28
<i>Policy Variables</i>			
Binary for Welfare Reform/Minimum Wage Increase	0.00	0.26	0.44
<i>Subsidy Variables:</i>			
State/Federal Child Care Subsidies	\$245.00	\$249.16	\$16.31
Rate of Increase in Copayments (%)	4.21	4.31	0.22
Binary for Copayments Reduction > 1 Child	0.00	0.41	0.49
United Way Subsidy per Eligible Child (\$100)	\$0.00	\$52.34	\$79.80
<i>Early Childhood Education Variables:</i>			
Availability of Head Start Slots in Public Schools	0.01	0.06	0.11
Availability of CAA Head Start Slots	0.00	0.39	2.25
Availability of Wrap Around Head Start Slots	0.00	0.03	0.11
Availability of Free Pre-K slots	0.54	0.59	0.39
Availability of Paid Public School Child Care	0.01	0.01	0.01
<i>Administrative Variables</i>			
Number of Programs at "One Stops"	3.00	3.05	0.75
Binary for Employment Counselor at "One Stops"	0.00	0.44	0.50
Clients per Eligibility Counselor	300.00	278.64	63.56
<i>Human Capital and Socio-Demographic</i>			
Age in Years	31.57	32.11	6.56
Years of Education	12.00	11.15	2.28
Female	1.00	0.96	0.19
Married	0.00	0.04	0.20
Previously Married	0.00	0.26	0.44
English Is Family Language	0.00	0.48	0.50
Hispanic	0.00	0.43	0.50
Black	0.00	0.49	0.50
Haitian	0.00	0.04	0.21
Number of Children in Family	2.00	2.22	1.09
Age in Years of Youngest Child	3.50	3.66	1.87
Informal Care Available	0.00	0.19	0.39
<i>Costs of Working</i>			
Median Rent per Room	\$117.03	\$115.97	\$21.41

Median Quarterly Earnings of Child Care Workers	\$812.21	\$835.85	\$180.47
Mean Travel Time to Work in Minutes	27.18	27.15	2.61
Transportation Price Index	143.90	144.03	1.67
Clothing & Apparel Price Index	149.60	149.01	8.39
Local Labor Market			
Employment Growth (monthly)-nondurable manufacturing	0.00%	-0.60%	0.55%
Employment Growth (monthly)-retail & wholesale trade	0.41%	0.10%	1.42%
Employment Growth (monthly)-services	0.42%	0.32%	0.80%
Employment Growth (monthly)-government	-0.68%	0.03%	2.87%

Table 3
Results Monthly Family Earnings of Working Poor
(n=24,361)

	Full Specification						Reduced Specification		
	Fixed Effects		Random Effects		Random Effects		Random Effects		
			Structured Error	Unstructured Error			Unstructured Error		
Explanatory Variables	Coefficient	P> t	Coefficient	P> z	Coefficient	P> z	Coefficient	P> z	Elasticity
Policy Variables									
Binary for Welfare Reform/Minimum Wage Increase	-0.040	0.00	-0.057	0.00	-0.058	0.00	-0.056	0.01	
Subsidy Variables:									
State/Federal Child Care Subsidies	0.002	0.00	0.002	0.00	0.002	0.00	0.002	0.00	0.45
Rate of Increase in Copayments	-3.389	0.18	-8.303	0.00	-6.081	0.01	-6.972	0.00	-0.26
Binary for Copayments Reduction > 1 Child	-0.025	0.04	-0.020	0.37	-0.026	0.07	-0.027	0.05	
United Way Subsidy per Eligible Child (\$100)	-0.036	0.21	-0.006	0.75	0.004	0.82			
Early Childhood Education Programs:									
Availability of Head Start Slots in Public Schools	0.057	0.68	0.128	0.16	0.071	0.40			
Availability of CAA Head Start Slots	0.025	0.02	0.010	0.29	0.004	0.68			
Availability of Wrap Around Head Start Slots	0.171	0.04	0.101	0.20	0.047	0.52			
Availability of Free Pre-K slots	-0.046	0.27	-0.037	0.51	-0.005	0.87			
Availability of Paid Public School Child Care	2.969	0.17	0.973	0.72	-0.940	0.65			
Administrative Variables									
Number of Programs at "One Stops"	-0.008	0.81	-0.020	0.66	0.010	0.82			
Binary for Employment Counselor at "One Stops"	0.000	0.02	0.020	0.31	0.030	0.07	0.030	0.08	
Clients per Eligibility Counselor (100s)	0.030	0.15	0.016	0.58	-0.040	0.08	-0.034	0.11	-0.11
Human Capital and Socio-Demographic									
Age in Years	0.219	0.00	-0.004	0.73	-0.008	0.39			
Age in years squared	-0.002	0.00	0.000	0.87	0.000	0.56			
Years of Education	0.013	0.33	0.015	0.00	0.014	0.00	0.014	0.00	0.16
Female	No Estimate		-0.091	0.04	-0.087	0.05	-0.075	0.08	
Married	-0.146	0.00	-0.054	0.22	-0.05	-0.28			
Previously Married	-0.038	0.01	-0.008	0.66	0.004	0.84			
English Is Family Language	-0.11	0.03	0.024	0.36	0.032	0.16	0.046	0.03	

Hispanic	No Estimate	-0.037	0.39	-0.027	0.50				
Black	No Estimate	-0.091	0.05	-0.070	0.11	-0.053	0.02		
Haitian	No Estimate	0.000	0.99	0.001	0.98				
Number of Children in Family	-0.017	0.37	0.058	0.00	0.071	0.00	0.069	0.00	0.16
Age in Years of Youngest Child	0.009	0.22	0.004	0.42	0.002	0.75			
Informal Care Available	0.025	0.28	0.016	0.66	0.024	0.38			
Costs of Working									
Median rent per room	0.002	0.00	0.001	0.35	0.000	0.89			
Median Earnings of Child Care Workers (\$100s)	-0.004	0.06	-0.006	0.10	-0.010	0.01	-0.010	0.01	-0.08
Mean Travel Time to Work	0.003	0.31	0.001	0.77	-0.002	0.70			
Transportation Costs	-0.003	0.17	-0.002	0.29	0.004	0.46			
Clothing Costs	0.000	0.39	0.000	0.67	0.001	0.05	0.001	0.03	0.12
Local Labor Market									
Employment Growth-nondurable manufacturing	-0.011	0.15	-0.019	0.00	-0.013	0.20	-0.016	0.01	0.00
Employment Growth-retail & wholesale trade	0.011	0.04	0.018	0.00	0.013	0.00	0.016	0.00	0.00
Employment Growth-services	-0.009	0.04	-0.141	0.00	-0.012	0.10	-0.013	0.00	0.00
Employment Growth-government	0.001	0.41	0.000	0.43	0.000	0.88			
Constant	2.150	0.01	6.718	0.00	6.687	0.00	6.400	0.00	
Test for Significance of Model									
	F _{53,21517}	8.34	$\chi^2(57)$	288.92	$\chi^2(57)$	420.48	$\chi^2(38)$	359.59	
	P>F	0.00	P> χ^2	0.00	P> χ^2	0.00	P> χ^2	0.00	
	R ²	0.78							